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occurs only on plums, prunes and apricots. *Capnodium armeniaca* is described solely from mycelium and gonidia. *Phyllosticta circumcissa* and *Clasterosporium amygdalearum* make "shot holes" in the leaves. Both are serious evils, the *Phyllosticta* being specially prevalent in the orchards of South Australia. The use of the term perithecia for receptacles containing only gonidia is not to be commended.—ERWIN F. SMITH.

VIALA, PIERRE. *Une Mission Viticole en Amerique*. Published at Montpellier, No. 5 Grand Street, by C. Coulet, and at Paris, No. 120 Boulevard St. Germain, by G. Masson. 1889.

This work (387 pages), illustrated by eight chromo-lithographs and a geologic map of the United States, contains the observations upon American grape-vines and their maladies, made by Professor Viala during a tour through the United States in 1887. By the French Government Professor Viala was commissioned to inspect the grape-vines, native of America, which might be found growing in marly or calcareous soils, with the view of finding a species of vine adaptable to culture on similar soils in France. In the preface to his book Professor Viala states that it "is not a report of his work upon this viticultural mission, but rather a study, complete as possible, of all the questions relative to American grape-vines and to the maladies of the vine in the country of their origin." With such a scope, the studies of this distinguished botanist will be of important interest to botanists and viticulturists of America as of Europe. In his extended tour throughout the United States Professor Viala was aided by our Government, and accompanied officially by Prof. F. Lamson Scribner, then Chief of the Section of Vegetable Pathology, United States Department of Agriculture, and now of the Agricultural Experiment Station, Knoxville, Tenn. According to Viala, there are of American vines eighteen known species. In the other parts of the earth there are but twelve; one species in Europe; the others in Asia. *Vitis vinifera* is indigenous to Europe. Of our native vines, those of interest to French viticulture, either as fruit-bearers or as graft-bearers, for the viniferas, are *Vitis Berlandieri*, *V. cordifolia*, *V. rupestris*, *V. riparia*, and sundry varieties of these species.

Of our long list of cultivated varieties but few find favor with Viala, being generally stigmatized as "*foxy*." This, however, is a matter of national taste. Wines which Frenchmen condemn are approved by Americans and Germans; while Frenchmen long resident with us learn by habitude to prefer the high-flavored American wines. The day may come when the "*peculiar*" flavor of the *Labrusca* and of the *Riparia* may be esteemed as a commendation. "*De gustibus non disputandum*."

Part second of Viala's volume is devoted to an exhaustive study of "the maladies of the vine in America"—black rot, white rot, bitter rot,

anthracnose, oidium, and other fungi, together with suggestions for their treatment; also a formidable list of insect enemies to the vine and its fruits; and an appendix treating of the adaptation of American vines to soils.

Altogether this work of the distinguished botanist is of standard interest, and in its preface we have the assurance that it will be soon followed by a second volume, wherein Viala will record personal observations made in travel through our country, and also "Studies upon Viticulture and Vinification in the United States." The volume under consideration is of especial interest to scientists; the volume to come will surely be instructive to the practical student of viticulture and viniculture.—A. W. PEARSON.

WAKKER, J. H. Contributions a la pathologie végétale: (1) *La morve des Anémones, produite par le Peziza tuberosa*, Bull.; (2) *Nouvelle recherches sur la gommose des Jacinthes et plantes analogues*; (3) *Les renflements des branches de quelques espèces de Ribes*; reprint from *Archives Néerlandaises*, Tome XXIII, p. 373-400, with 2 plates on Gummosis.

(I.) The author completes some observations on a disease of anemones known as black rot, and due to *Peziza tuberosa*. This fungus occurs principally on *Anemone Coronaria*, its varieties and hybrids, these being the sorts most frequently planted. It has also been observed on *A. ranunculoides* and *A. nemorosa*.

The symptoms of the disease are essentially the same in all the species. The leaves turn brown, wither early, and pull up very readily. The root-stock is the part first attacked and the chief seat of the disease, but the base of the petioles may also become involved. In a normal condition the interior of the root-stock shows the milk-white color of ordinary starch-bearing parenchyma, but under the influence of this fungus it assumes a gray tint, and becomes soft and easy to crush between the fingers. Large mycelial filaments penetrate this soft mass in all directions, passing between the cells and through them. These filaments were traced into the firm tissues of the rhizome. There their very blunt extremities are found only between the cells, the filaments, as in many other cases, growing around and between the cells before determining their destruction.

When the diseased plants are left undisturbed in the earth, the mycelium produces large sclerotia, easily mistaken for the root-stocks of *A. coronaria*, a fact which singularly favors the spread of the fungus.

Toward the end of April these sclerotia begin to produce the ordinary *Peziza* cups. These are a uniform milk and chocolate color, 55 mm long; 3 mm thick; with a disk breadth of 15 mm. Some other measurements are: asci,  $190 \times 12 \mu$ ; paraphyses,  $190 \times 2 \mu$ ; spores,  $16 \times 8 \mu$ . For admirable figures of the *Peziza* form, see Tulasne *S. F. C.* III, Tab. 22, Figs. 1-5.